# surface science

Abstracted/indexed in: Aluminium Industry Abstracts; Chemical Abstracts; Current Contents; Physical, Chemical and Earth Sciences; EI Compendex Plus; Engineered Materials Abstracts; Engineering Index; INSPEC; Metals Abstracts; Physics Briefs.

Contents

Volume 338 (1995) Nos. 1–3

## Surface Science Letters

Size-mismatch effect on the surface segregation of $AuCu_3$ alloys
Y.C. Yong and H.C. Poon L825

Changes of the $Pt_3Co(100)$ surface stoichiometry with NO adsorption
S. Lee and Y. Okawa L833

Isotope effects at the order–disorder phase transition of the $(2 \times 2)$-2H structure on Ni(111)
C. Voges, K. Budde and H. Pfnür L839

Surface X-ray diffraction study on the Si(001)2 × 1 structure
M. Takahasi, S. Nakatani, Y. Ito, T. Takahashi, X.W. Zhang and M. Ando L846

{310} faceting of the Ge(001)2 × 1 surface induced by indium
Z. Gai, H. Ji, Y. He, C. Hu, R.G. Zhao and W.S. Yang L851

Indium phosphide whiskers grown by ion bombardment
F. Okuyama and J. Kato L857

Semiclassical rainbow analysis in atom–surface scattering
R. Guantes, F. Borondo, C. Jaffé and S. Miret-Artés L863

Evidence for two kinetically distinct atomic oxygen species on Ag(110): a molecular beam study of the CO oxidation reaction
U. Burghaus and H. Conrad L869

Broadening of atomic levels near metal surfaces: first-order model versus coupled-angular-mode method
A.G. Borisov and U. Wille L875

$SrTiO_3(001)$ surfaces and growth of ultra-thin $GdBa_2Cu_3O_{7-x}$ films studied by LEED/AES and UHV-STM
Q.D. Jiang and J. Zegenhagen L882

Erratum to "Submonolayer epitaxy without a critical nucleus" [Surface Science 329 (1995) L599]
C. Ratsch, P. Šmilauer, A. Zangwill and D.D. Vvedensky L889

## Surface Science

Reconstruction of the oxygen covered $Cu_3Au(110)$ surface investigated by low energy ion back scattering and LEED
K. Morgenstern, H. Niehus and G. Comsa 1

Chemisorption of hydrogen on stepped (410) surfaces of Ni and Cu
Q. Sun, J. Xie and T. Zhang 11

Growth of Mn on Cu(100) studied by STM: the $c(2 \times 2)$ and $pgg(4 \times 2)$ ordered surface alloys
R.G.P. van der Kraan and H. van Kempen 19

Order and disorder in electrochemical deposits of copper on graphite
R. Srinivasan and P. Gopalan 31

Interactions and dynamics of benzene on Cu{111} at low temperature
S.J. Stranick, M.M. Kamna and P.S. Weiss 41

Influence of an adsorbate on the morphology of a vicinal surface: sulfur on Cu(1 1 11), a STM and helium diffraction study
L. Masson, L. Barbier, J. Cousty and B. Salanon 60

Oxidation of ethylene on the ordered alloy surface $Pd\{001\}c(2 \times 2)$-Mn
J.-F. Jia, K. Wu, S.-H. Lu, R.-G. Zhao, X.-m. Wei, S.-C. Wu and D.-Z. Wang 69

Adsorption of elemental S on Ni(100) surfaces
C.A. Papageorgopoulos and M. Kamaratos 77

Li intercalation across and along the van der Waals surfaces of $MoS_2(0001)$
C.A. Papageorgopolous and W. Jaegermann 83

Laser modifications of Si(100):Cl surfaces induced by surface melting: etching and cleaning
B. Bourguignon, M. Stoica, B. Dragnea, S. Carrez, J. Boulmer, J.-P. Budin, D. Débarre and A. Aliouchouche 94

The interaction of methyl chloride and Si(100)2 × 1
K.A. Brown and W. Ho 111

*Contents continued on inside cover*

0039-6028(19950910)338:1/3;1-#

Surface states on amorphous silicon
S.Z. Weisz, J. Avalos, M. Gomez, A. Many, Y. Goldstein and E. Savir 117

Reaction of methanol with porous silicon
J.A. Glass, Jr., E.A. Wovchko and J.T. Yates, Jr. 125

Kronig–Penney model treatment of photoemission from silicon
R.K. Thapa and N. Kar 138

Adsorption of water on Si(001)-2 × 1 and Si(111)-7 × 7 surfaces at 90 and 300 K: a Si 2p core-level and valence band study with synchrotron radiation
C. Poncey, F. Rochet, G. Dufour, H. Roulet, F. Sirotti and G. Panaccione 143

The segregation of Fe on the $(10\bar{1}0)$ Zr surface
C.-S. Zhang, B. Li and P.R. Norton 157

The scattering of Ar from Ag(111): a molecular dynamics study
R.J.W.E. Lahaye, A.W. Kleyn, S. Stolte and S. Holloway 169

Differential reflectivity of cleaved CdTe(110) surface with polarised light
B.J. Kowalski, A. Cricenti and B.A. Orlowski 183

Adsorption and thermal decomposition of phenol on Ni(110)
J.N. Russell, Jr., S.S. Sarvis and R.E. Morris 189

Epitaxial growth of GaSb(111) on Sb(111) by interdiffusion assisted molecular beam epitaxy
J.-L. Guyaux, R. Sporken, R. Caudano, V. Wagner, J. Geurts, N. Esser and W. Richter 204

Preparation and characterization of ultra-thin iron oxide films on a Mo(100) surface
J.S. Corneille, J.-W. He and D.W. Goodman 211

Periodic step-bunching on a miscut Pt(111) surface
M. Yoon, S.G.J. Mochrie, D.M. Zehner, G.M. Watson and D. Gibbs 225

Growth kinetics of bcc crystal surfaces
F. Hontinfinde and M. Touzani 236

Nanotribology: an UHV-SFM study on thin films of $C_{60}$ and AgBr
R. Lüthi, E. Meyer, H. Haefke, L. Howald, W. Gutmannsbauer, M. Guggisberg, M. Bammerlin and H.-J. Güntherodt 247

Multilayer adsorption and desorption
S.H. Payne and H.J. Kreuzer 261

Study of surface segregation and surface tension of Sn–Ga solution using AES and sessile drop methods
O.G. Ashkotov and M.V. Zdravomislov 279

Electromagnetic waves in an inhomogeneously polarized layer of adsorbed molecules
Y.V. Demidenko, S.V. Kriuchenko and V.Z. Lozovski 283

Thermodynamic characterization of a methyl chloride film adsorbed on graphite
A. Bah and N. Dupont-Pavlovsky 293

An in-situ X-ray photoelectron study of the interaction between vapor-deposited Ti atoms and functional groups at the surfaces of self-assembled monolayers
K. Konstadinidis, P. Zhang, R.L. Opila and D.L. Allara 300

Dissociation and electronic transitions in low energy grazing collisions of $CO_2^+$ ions with W(110) surfaces
H. Müller, D. Gador and V. Kempter 313

Molecular orbital models of strained tetrahedral edge shared active sites on dehydroxylated silica: an AM1 and PM3 study
R.D. Bendale and L.L. Hench 322

Stochastic simulations of temperature programmed desorption kinetics
F.A. Houle and W.D. Hinsberg 329

Announcement 347

Author index 349

Subject index 352

Materials index 358

Elsevier Science B.V. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the written permission of the publisher, Elsevier Science B.V., Copyright & Permissions Department, P.O. Box 521, 1000 AM Amsterdam, The Netherlands.

*Special regulations for authors* – Upon acceptance of an article by the journal, the author(s) will be asked to transfer copyright of the article to the publisher. This transfer will ensure the widest possible dissemination of information.

*Special regulations for readers in the USA* – This journal has been registered with the Copyright Clearance Center, Inc. Consent is given for copying of articles for personal or internal use, or for the personal use of specific clients. This consent is given on the condition that the copier pays through the Center the per-copy fee stated in the code on the first page of each article for copying beyond that permitted by Sections 107 or 108 of the US Copyright Law. The appropriate fee should be forwarded with a copy of the first page of the article to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA. If no code appears in an article, the author has not given broad consent to copy and permission to copy must be obtained directly from the author. The fee indicated on the first page of an article in this issue will apply retroactively to all articles published in the journal, regardless of the year of publication. This consent does not extend to other kinds of copying, such as for general distribution, resale, advertising and promotion purposes, or for creating new collective works. Special written permission must be obtained from the publisher for such copying.

*US mailing notice* – Surface Science (including Surface Science Letters) (ISSN 0039-6028) is published three times per month by Elsevier Science B.V., Molenwerf 1, P.O. Box 211, 1000 AE Amsterdam, The Netherlands. The annual subscription price in the USA is US$ 6530 (valid in North, Central and South America only), including air speed delivery. Second class postage paid at Jamaica, NY 11431.

USA POSTMASTERS: Send address changes to Surface Science, Publications Expediting, Inc., 200 Meacham Avenue, Elmont, NY 11003. Airfreight and mailing in the USA by Publications Expediting.

No responsibility is assumed by the Publisher for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein. Although all advertising material is expected to conform to ethical standards, inclusion in this publication does not constitute a guarantee or endorsement of the quality or value of such product or of the claims made of it by its manufacturer.